

## VANADIUM

### A. Commodity Summary

According to the U.S. Bureau of Mines, the domestic vanadium industry consists of twelve firms, of which only six are active.<sup>1</sup> Exhibit 1 presents the names and locations of the facilities involved in the production of vanadium. Raw materials include Idaho ferrophosphorus slag, petroleum residues, spent catalysts, utility ash, and vanadium bearing iron slag. Some vanadium is recovered from solution mining, however, that is only marginally economically feasible. Estimated domestic consumption of vanadium in 1994 was 4,100 metric tons.<sup>2</sup>

#### EXHIBIT 1

##### SUMMARY OF VANADIUM PROCESSING FACILITIES

Facility Name	Location	Type of Operations
Akzo Chemical Company	Weston, MI	Vanadium catalysts
AMAX Metals Recovery Corp	Braithwaite, LA	Vanadium Pentoxide
Bear Metallurgical Corp.	Butler, PA	Ferrovanadium
Cotter Corp.	Canon City, CO	Vanadium pentoxide from uranium byproducts (inactive)
Gulf Chemical & Metallurgical Corp.	Freeport, TX	Vanadium pentoxide
Kerr-McGee Chemical Corp	Soda Springs, ID	Vanadium pentoxide
Reading Alloys	Robeson, PA	Aluminum-vanadium master alloy
Shieldalloy Metallurgical Corp	Cambridge, OH	Ferrovanadium, ammonium metavanadate, and aluminum-vanadium
Stratcor	Niagara Falls, NY	Ferrovanadium, aluminum-vanadium alloy, and Nitrovan (inactive)
Teledyne Wah Chang	Albany, OR	Vanadium metal and vanadium-zirconium alloy
Umetco Minerals	Blanding, UT	Vanadium pentoxide from uranium byproducts (inactive)
Stratcor	Hot Springs, AR	Vanadium pentoxide

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<sup>1</sup> Henry E. Hillard, "Vanadium," from Minerals Yearbook Volume 1. Metals and Minerals, U.S. Bureau of Mines, 1992, p. 1463.

<sup>2</sup> Henry E. Hillard, "Vanadium," from Mineral Commodities Summary, U.S. Bureau of Mines, 1995, p. 184.